ACCESSORIES FOR ALL LynTec SEQUENCERS

Field installed, UL & CSA listed, motorized circuit breakers are required to complete the Lighting Control Panel or Sequencing Panel package.

BLUE TYPE = Bolt-on breakers for Panelboards ONLY — Clip-on breakers fit Load Centers or Panelboards

BMB-15 ....... Bolt-on Motorized Breaker, Square D #QOB115PL-5393
MB-15 ......... Clip-on Motorized Breaker, Square D #QO115PL-5393
One pole, 15 Amps. Special 60” leads. Square D trip curve: 730-4

BMB-20 ....... Bolt-on Motorized Breaker, Square D #QOB120PL-5393
MB-20 ......... Clip-on Motorized Breaker, Square D #QO120PL-5393
One pole, 20 Amps. Special 60” leads. Square D trip curve: 730-4
15 and 20 Amp breakers have a HM, (High Magnetic) rating. HM reduces nuisance breaker trips on high inrush loads.

BMB-220 ...... Bolt-on Motorized Breaker, Square D #QOB220PL-5393
MB-220 .......... Clip-on Motorized Breaker, Square D #QO220PL-5393
Two pole, 20 Amps. Special 60” leads. Square D trip curve: 730-4
15 and 20 Amp breakers have a HM, (High Magnetic) rating. HM reduces nuisance breaker trips on high inrush loads.

BMB-30 ...... Bolt-on Motorized Breaker, Square D #QOB130PL-5393
MB-30 .......... Clip-on Motorized Breaker, Square D #QO130PL-5393
One pole, 30 Amps. Special 60” leads. Square D trip curve: 730-5

BMB-230 ...... Bolt-on Motorized Breaker, Square D #QOB230PL-5393
MB-230 .......... Clip-on Motorized Breaker, Square D #QO230PL-5393
Two pole, 30 Amps. Special 60” leads. Square D trip curve: 730-5

2 pole 30A, 40A and 60A and 3 pole Bolt-on and Clip-on Motorized Breakers are also available on special order. — Call 800-724-4047 for price and delivery.

UnMotorized circuit breakers for un-controlled circuits

BUMB-10, -15, -20 or -30 are Bolt-on, 10, 15, 20 or 30 amp single pole. Square D QOB110, QOB115HM, QOB120HM or QOB130. — 15s & 20s are High Magnetic.

UMB-10, -15, -20 or -30 are Clip-on, 10, 15, 20 or 30 amp single pole. Square D QO110, QO115HM, QO120HM or QO130. — 15s & 20s are High Magnetic.
Instruction Bulletin

QO-PL (Plug-on), QOB-PL (Bolt-on) Powerlink® Remotely Operated Circuit Breakers
(Use in Type QO Load Centers and Type NQO, NQOB, and NQOD Panelboards)
Retain for future use.

REQUIREMENTS

Remotely Operated Circuit Requirements

**DANGER**

HAZARD OF ELECTRIC SHOCK, BURN, OR EXPLOSION.

When servicing a branch circuit fed by a remotely operated circuit breaker, move handle of remotely operated circuit breaker to OFF position. Do not rely on remote operation to open circuit breaker.

Failure to follow these instructions will result in personal injury or death.

CIRCUIT BREAKER INSTALLATION

**DANGER**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

• Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.

• This equipment must be installed and serviced only by qualified electrical personnel.

• Turn off all power supplying this equipment before working on or inside equipment.

• Always use a properly rated voltage sensing device to confirm power is off.

• Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death, or serious injury.

POWERLINK® QO(B)-PL Remotely Operated Circuit Breakers require a power supply capable of delivering at least two amperes at 24 Vdc for a minimum of 50 milliseconds. One-, two-, and three-pole circuit breakers all have one internal motor, and power requirements are the same regardless of the number of poles and ampere ratings.

The required power supply ampacity and control device contact rating are determined by the number of circuit breakers to be switched simultaneously (i.e., four circuit breakers switched simultaneously require a power supply and a control device contact rated 8 amperes minimum). The control device may be either a normally-open (NO)/normally-closed (NC) contact; a single-pole, double-throw switch (SPDT); or other three-wire control device.

1. Turn off all power supplying this equipment before working on or inside equipment.

2. Before installing circuit breaker turn circuit breaker handle to OFF position.

3. Remove panelboard cover and deadfront. Verify power is off with voltage meter before proceeding.

Installation of circuit breaker into panelboard/load center (refer to figure below)

4. Except for remotely operated connections, QO(B)-PL remotely operated circuit breakers are installed in a panelboard/load center the same as conventional QO(B) circuit breakers.

Connection of remotely operated circuit (refer to the figure on next page)

5. Assure that power supply and control device meet requirements listed under "Remotely Operated Circuit Requirements."

See page 2 for LynTec part number explanation

All LynTec supplied breakers have special 60” control wires. (Square D standards are 18”.)
CIRCUIT BREAKER INSTALLATION

HAZARD OF CIRCUIT BREAKER DAMAGE.

Connect the 24 Vdc remote control wiring as shown on this page.

Failure to follow these instructions can permanently damage the remotely operated circuit breaker.

**CAUTION**

6. All wiring and splicing must comply with applicable code requirements for Class 1 circuits. Refer to paragraph 373-8 and article 725 of the National Electrical Code.

7. Three #18 AWG control wires are attached to the remotely operated circuit breaker for connection to the power supply and remote control device and should be cut to the required length to reach the splice connections. Use #18 AWG or larger conductors with 600 V insulation and approved wire connectors for splices.

8. Connect the black lead of the remotely operated circuit breaker to the negative (-) terminal of the 24 Vdc power supply. Connect the red lead of the remotely operated circuit breaker to the positive (+) terminal of the 24 Vdc power supply. Connect the white lead of the remote control device. The remote control device provides connections between either positive or negative potential of the power supply and the white wire of the remotely operated circuit breaker, as appropriate.

9. Applying the positive potential of the power supply to the white wire (contact closure between the red wire and white wire) will operate the remote mechanism of the circuit breaker to the OFF position. Applying the negative potential of the power supply to the white wire (contact closure between the black wire and the white wire) will operate the remote mechanism of the circuit breaker to the ON position. A control circuit utilizing a normally open (NO)/normally closed (NC) contact is illustrated below.

NOTE: The remote mechanism will not move the circuit breaker handle. Also, the remote mechanism cannot turn power ON when the circuit breaker is tripped (VISI-TRIP® flag indicator showing) or when the circuit breaker handle is in the OFF position.

Installation of the trim and operational checks

10. Remove corresponding twist-out from panelboard trim and replace trim.

11. Turn power to panelboard on.

12. Turn remotely operated circuit breaker handle to the ON position.

13. Turn power to the remotely operated circuit on and test this circuit, turning remotely operated circuit breaker off remotely, then on remotely. If power to remote controlled circuit breaker load does not switch off and on, turn off power to remotely operated circuit and panelboard and check wiring.

NOTE: A power supply is available from Square D Company, Cat. No. QOPLPS (plug-on) or QOBPLPS (bolt-on).

Splice not normally required with LynTec supplied breakers with 60" leads.

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

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Square D Company
3700 Sixth Street SW
Cedar Rapids IA 52404 USA
1-888-SquareD (1-888-778-2733)
www.SquareD.com

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### NQO Series Ratings

This page contains UL Tested and Certified series combination ratings for panelboards. These ratings apply to either an integral main located in the Class 1630, 1670.

#### Rating Table

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<tr>
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<th>Main Circuit Breaker Designations</th>
<th>Allowable Ampere Ranges</th>
<th>Branch Circuit Breaker Designations</th>
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<td>QO (B) VH</td>
<td>15–125 A</td>
<td>15–100 A</td>
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<tr>
<td>MSP 341</td>
<td>QO (B) HF</td>
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<tr>
<td>QOxxx</td>
<td>QO (B) H</td>
<td>15–125 A</td>
<td>15–100 A</td>
</tr>
<tr>
<td>QOxxx</td>
<td>QO (B) APF</td>
<td>15–125 A</td>
<td>15–100 A</td>
</tr>
</tbody>
</table>

#### UL Tested and Certified Series Combination Ratings

<table>
<thead>
<tr>
<th>Maximum System Voltage AC</th>
<th>Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>480V/250V</td>
<td>QDL-3G-70A-001, QDL-3G-100A-001</td>
</tr>
<tr>
<td>480V/300V</td>
<td>QDL-3G-150A-001, QDL-3G-225A-001</td>
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<tr>
<td>480V/377V</td>
<td>QDL-3G-300A-001, QDL-3G-450A-001</td>
</tr>
</tbody>
</table>

#### Branch Circuit Breaker Designations

<table>
<thead>
<tr>
<th>Type</th>
<th>1-pole</th>
<th>2-pole</th>
<th>3-pole</th>
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</thead>
<tbody>
<tr>
<td>QO (B)</td>
<td>15–70 A</td>
<td>15–100 A</td>
<td>15–100 A</td>
</tr>
<tr>
<td>QO (B)</td>
<td>15–125 A</td>
<td>15–125 A</td>
<td>15–125 A</td>
</tr>
<tr>
<td>QO (B)</td>
<td>15–180 A</td>
<td>15–200 A</td>
<td>15–200 A</td>
</tr>
</tbody>
</table>

### QOBXXX (B) = BUMB series Bolt-on, UnMotorized Breaker

- **xxx = poles.**
- **trip current:** -5393 suffix denotes special 60" control wires.

- **[1 pole]** BUMB-15, BUMB-20, BUMB-30
- **[2 pole]** BUMB-215, BUMB-220, BUMB-230
- **[3 pole]** BUMB-315, BUMB-320, BUMB-330

### QOxxx = UMB series clip-on, UnMotorized Breaker

- **xxx = poles.**
- **trip current:**

- **[1 pole]** UMB-15, UMB-20, UMB-30
- **[2 pole]** UMB-215, UMB-220, UMB-230
- **[3 pole]** UMB-315, UMB-320, UMB-330

All 15 & 20 A breakers are HM (High Magnetic)
Emergency circuit breaker activation
for
MSLC or MSP systems using motorized circuit breakers.

OR
for all systems using motorized circuit breakers.

POWER SUPPLY for Emergency actuation of motorized circuit breakers
Connect Red and Black wires as shown.
Touch WHITE wire to BLACK to cycle breaker motor ON
or
Touch WHITE wire to RED to cycle breaker motor OFF

NOTE DO NOT connect batteries to screw terminal strips. Wires MUST be disconnected from screw terminal strips or control relays will be damaged.

NOTE The motor inside the REMOTELY OPERATED breaker only opens the circuit if the handle is in the ON position. The breaker handle is not moved by the motor. The breaker handle only moves when tripped due to overload.

MOTORIZED CIRCUIT BREAKER

Lyntec
800-724-4047

Emergency RR7 relay activation for LCRP or PDS-8 series

POWER SUPPLY for Emergency actuation of RR7 Latching Relays

Three 9 volt alkaline batteries snapped together in series.

NOTE DO NOT connect batteries to sequencer board. Yellow Plugs MUST be disconnected from sequencer or control ICs will be damaged.

RR7 P3 Latching Relay

Touch BLACK wire (— battery) to BLACK to latch RR7 OFF
or
Touch BLACK wire (— battery) to RED to latch RR7 ON